UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/516,711	12/02/2004	Lieven Gesquiere	PF020058	6753

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EXAMINER
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2614	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

PTOL-90A (Rev. 04/07)

<table>
<tr><td rowspan="3">Office Action Summary</td><td>Application No.
10/516,711</td><td>Applicant(s)
GESQUIERE ET AL.</td></tr>
<tr><td>Examiner
AKELAW A. TESHALE</td><td>Art Unit
2614</td></tr>
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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *09 March 2009*.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-9, 20, 22, 23 and 30-34* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-9, 20, 22, 23 and 30-34* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *12/02/2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

        1.☐ Certified copies of the priority documents have been received.

        2.☐ Certified copies of the priority documents have been received in Application No. _____ .

        3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____ .

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application

6)☐ Other: _____ .

DETAILED ACTION

Response to Amendment

1.   This action is in response to the communication filed on 03/09/2009.

2.   Claims **1-9, 20, 22, 23 and 30-34 are** pending in this action.

3.   **Claims 30-34** have been added as a new claim.

4.   **Claims 10-19** have been previously cancelled.

5.   **Claims 21 and 24-29** have been cancelled.

6.   This action is final.

Claim Rejections - 35 USC § 102

7.   The following is a quotation of the appropriate paragraphs of 35

U.S.C. 102 that form the basis for the rejections under this section made in this

Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section
> 122(b), by another filed in the United States before the invention by the applicant for patent or
> (2) a patent granted on an application for patent by another filed in the United States before
> the invention by the applicant for patent, except that an international application filed under
> the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an
> application filed in the United States only if the international application designated the United
> States and was published under Article 21(2) of such treaty in the English language.

8.   **Claims 1-9, 20, 22, 23 and 30-34 are** rejected under 35 U.S.C. 102(e) as

being anticipated by U.S Patent No. 6,658,499 B1 to Day et al (Day).

As to **claim 1,** Day et al discloses a modem for interconnecting a DSL line

and a local bus, said local bus comprising a first and a second data transfer

mode(Fig.6, column 8, lines 5-10 and column 13 , lines 1-57), which modem

comprises a DSL interface adapted to send and receive data on the DSL line at a

DSL bandwidth selected from a first set of bandwidths, and a local bus interface,
wherein the local bus interface is adapted to operate at a local bus bandwidth
selected from a second set of bandwidths so as to match the DSL bandwidth,
and is adapted to select the first data transfer mode of said local bus bandwidth
is below a specified nonzero threshold ,and selecting the second data transfer
mode if said local bus bandwidth is above said threshold (Abstract, see Fig.6,
column 8, lines 5-10 and column 13, lines 1-58).

As to **claim 2,** Day et al discloses the modem according to claim 1,
wherein each set is formed of a plurality of discrete predefined bandwidth
amounts (column 2, lines 12-34).

As to **claim 3,** Day et al discloses the modem according to claim 1, each
set is formed of a plurality of discrete predefined bandwidth amounts (column 2,
lines 12-34).

As to **claim 4,** Day et al discloses the modem according to claim 1,
wherein the local bus interface is a USB interface (see Fig.1 element 110).

As to **claim 5,** Day et al discloses the modem according to claim 4,
wherein the USB interface is adapted to operate in bulk transfer mode if the DSL
bandwidth is below a predefined non-zero threshold and in isochronous transfer
mode if the DSL bandwidth is above said threshold (Fig.6 column 2, lines 12-34,
column 8, lines 5-10 and column 13, lines 1-58).

As to **claim 6,** Day et al discloses the modem according to one of claim 1,
wherein it comprises storage means for storing data representative of at least

one of a local bus bandwidth amount and a DSL bandwidth amount assigned to a service accessible by said DSL line (column 6, lines 58-67).

As to **claim 7,** Day et al discloses a method for establishing a data transfer mode for a modem interconnecting a DSL line and a local bus , said local bus comprising a first and a second data transfer mode preferably a modem(Fig.6, column 8, lines 5-10 and column 13 , lines 1-57),comprising the steps of :

a) selecting at least one of a desired DSL bandwidth and a desired local bus bandwidth from first and second sets of bandwidths according to a desired type of service to be accessed via said DSL line(see Fig.6 and column 13 , lines 1-57) ,

b) attempting to reserve the desired local bus bandwidth on the local Bus (see Fig.6),

c) if said local bus bandwidth is below a specified nonzero threshold, selecting the first data transfer mode, and if said local bus bandwidth is above said threshold, selecting the second data transfer mode(Abstract, see Fig.6, column 8, lines 5-10 and column 13, lines 1-58),

d) attempting to synchronize the DSL line to the desired DSL bandwidth(Abstract, see Fig.6, column 8, lines 5-10 and column 13, lines 1-58), and

e) when the attempts have succeeded, transferring data between the DSL line and the local bus (Abstract, see Fig.6, column 8, lines 5-10 and column 13, lines 1-58).

As to **claim 8,** Day et al discloses the method of claim 7, wherein each set is formed of a plurality of discrete predefined bandwidth amounts (column 2, lines 12-34).

As to **claim 9,** Day et al discloses the method of claim 8, comprising the step of selecting one of the desired bandwidths based on the other bandwidth such that the desired local bus bandwidth is the lowest bandwidth from said second set that has a payload data rate at least equal to that of the desired DSL bandwidth (See Fig .6).

As to **claim 20,** Day et al discloses the method of claim 7, wherein at least one of the desired bus bandwidths is selected based on a specified bandwidth amount for the desired service stored at the modem (column 6, lines 58-67).

As to **claim 22,** Day et al discloses the method of claim 7, wherein if the second transfer mode is selected and of step d) fails, a lower desired local bus bandwidth is selected from the second set, and step d) is repeated (See Fig.6).

As to **claim 23,** Day et al discloses the method of claim 22, wherein and if step d) fails and no lower desired local bus bandwidth can be selected from the second set, the first data transfer mode is selected for the local bus (See Fig.6).

As to **claim 30,** Day et al discloses a method for establishing a data transfer mode for a modem interconnecting a DSL line and a local bus, said local bus comprising a first and a second data transfer mode(Fig.6, column 8, lines 5-10 and column 13 , lines 1-57), comprising the steps of

a) selecting the first data transfer mode (Fig.6, column 8, lines 5-10 and column 13 , lines 1-57),

b) selecting at least one of a desired DSL bandwidth and a desired local bus bandwidth from first and second sets of bandwidths according to a desired type of service to be accessed via said DSL line(Fig.6, column 8, lines 5-10 and column 13 , lines 1-57),

c) attempting to reserve the desired local bus bandwidth on the local bus,

d) attempting to synchronize the DSL line to the desired DSL bandwidth, and e) when the attempts have succeeded, transferring data between the DSL line and the local bus (Fig.6, column 8, lines 5-10 and column 13, lines 1-57).

As to **claim 31,** Day et al discloses the method of claim 30, wherein, if said transfer has succeeded and if said local bus bandwidth is above a specified nonzero threshold, selecting the second data transfer mode(Fig.6, column 8, lines 5-10 and column 13 , lines 1-57).

As to **claim 32,** Day et al discloses the method of claim 30, wherein, if said local bus bandwidth is not granted, selecting the first data transfer mode(Fig.6, column 8, lines 5-10 and column 13 , lines 1-57).

As to **claim 33,** Day et al discloses the method according to claim 30, wherein said local bus is an USB bus, said first data transfer mode is a Bulk transfer mode and said second data transfer mode is an isochronous transfer mode(Fig.6, column 8, lines 5-10 and column 13 , lines 1-57).

As to **claim 34,** Day et al discloses the method according to claim 7, wherein said local bus is an USB bus, said first data transfer mode is a Bulk transfer mode and said second data transfer mode is an isochronous transfer mode(Fig.6, column 8, lines 5-10 and column 13 , lines 1-57).

Response to Arguments

Applicant's arguments filed **03/09/2009** have been fully considered but they are not persuasive. Applicant's arguments and corresponding examiner's responses are shown below.

Argument I: With regarding claims 1, 7 and 30, applicant argues by saying this is in <u>sharp contrast</u> to the present invention which utilizes two algorithms for establishing a data transfer mode. The first algorithm, an aggressive algorithm, is summarized in paragraph 51 of the specification. The second algorithm, a friendly algorithm, is summarized in paragraph 68 of the specification. These algorithms select between bulk and isochronous transfer modes depending on the bandwidth required and are not anticipated by Day. Day predominantly employs isochronous USB transfer modes, and, as indicated in column 8, lines 5-10, the bulk transfer mode is used only if the isochronous transfer mode is not available. Whereas in the present invention, bulk and isochronous modes can be selected independent of the other's availability status. (Namely, Day does not disclose the data transfer mode selections). Furthermore, Day does not disclose that selections are performed based on a non-zero threshold even if isochronous mode is available as found in the present claims. Additionally, previously submitted references US Patent No. 6,021,129 and 6 590,897 also do not disclose any selection of bulk or isochronous modes as found in the present claims.

Response I: Examiner respectfully disagrees with the argument. In that

Day clearly discloses the algorithms select between bulk and isochronous

transfer modes depending on the bandwidth required (see Fig .6 steps 612, 614

and 616).

The reduction of the isochronous bandwidth request in step 614 may be

based, alternatively, on a series of set values contained within the bandwidth

negotiation routine 312 that are either permanently set or that are set based on

processing (e.g., of software 326) or data input (e.g., via the user interface 328)

to the computer 306. The set values that the reduced bandwidth request is based

on may have equal increments between them, or each set value may have a

different increment between it and adjacent values. After the isochronous

bandwidth is reduced and submitted in step 614, the bandwidth negotiation

method 600 loops back to step 608 in which it is determined if the requested

isochronous bandwidth is available, as was described above(column 12 , lines

55-67). Continuing on, with regards to step 612, if it is determined that there is no

isochronous bandwidth available, the bandwidth negotiation method 600

proceeds to step 616. In step 616, the request of isochronous bandwidth is

discontinued and instead bandwidth requests for bulk transfers are submitted. As

discussed above, bulk transfers are dynamically scheduled on a per frame basis

based on the available bandwidth on the USB bus 110, whereas isochronous

transfers are made based on a guaranteed allocation of isochronous bandwidth.

Furthermore, in step 616 the modem 302 "forces" the ADSL line rate to a slow

setting, for example, less than 1 Mbps (column 13, lines 30). In Fig. step 612,

there is a selection between an isochronous mode and bulk transfer mode. The

selections are also based on non-zero threshold (see Fig.6 selections between

isochronous mode and bulk transfer mode the bandwidth availability).

Conclusion

9.   The prior art made of record and not relied upon is considered pertinent to

applicant's disclosure. U.S Patent No. 6,021,129 to Martin discloses A modem

operable to communicate information from a communications link to a host using

a universal serial bus includes a modem memory operable to store a plurality of

ATM cells. The modem further includes a short packet instigator operable to

determine whether each ATM cell contains a termination condition associated

with the content of the ATM cell, and in response to determining that an ATM cell

contains a termination condition, to instigate transmission of a short packet

comprising a universal serial bus packet carrying less than its capacity(see

Abstract).

10.   **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of

time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire

THREE MONTHS from the mailing date of this action. In the event a first reply is

filed within TWO MONTHS of the mailing date of this final action and the advisory

action is not mailed until after the end of the THREE-MONTH shortened statutory

period, then the shortened statutory period will expire on the date the advisory

action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be

calculated from the mailing date of the advisory action. In no event, however, will

the statutory period for reply expire later than SIX MONTHS from the mailing

date of this final action.

Any inquiry concerning this communication or earlier communications from

the examiner should be directed to AKELAW A. TESHALE whose telephone

number is (571)270-5302. The examiner can normally be reached on M-F

8:00am-5:00 Pm ET.

If attempts to reach the examiner by telephone are unsuccessful, the

examiner's supervisor, FAN TSANG can be reached on (571)272-7547. The fax

phone number for the organization where this application or proceeding is

assigned is 571-273-8300.

Information regarding the status of an application may be obtained from

the Patent Application Information Retrieval (PAIR) system. Status information

for published applications may be obtained from either Private PAIR or Public

PAIR. Status information for unpublished applications is available through

Private PAIR only. For more information about the PAIR system, see http://pair-

direct.uspto.gov. Should you have questions on access to the Private PAIR

system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-

free). If you would like assistance from a USPTO Customer Service

Representative or access to the automated information system, call 800-786-

9199 (IN USA OR CANADA) or 571-272-1000.

/Akelaw A Teshale/
Examiner, Art Unit 2614

/Simon Sing/

Primary Examiner, Art Unit 2614